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Case Report

Alleged rape – a case study illustrating potential difficulties in interpretation of ano-genital findings – a personal view

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Abstract

In cases of alleged rape the complainant (or "complainer" in Scotland) may be in a position to identify the alleged assailant and as a result of the advances in forensic science the issue frequently relates to the question of consent. In addition to collection of relevant forensic samples, the forensic medical examiner (FME) is required to examine the complainer for evidence of recent injury and interpret the relevance of the clinical findings. In these specialised forensic cases while it is appropriate that the FME adopts an empathic approach it is essential that clinical objectivity is retained such that we may be in a position to provide an entirely impartial professional report which will assist in the investigation of the complaint. Irrespective of our involvement in these cases, whether at the request of the prosecution or the defence, it is essential to remember our position as independent forensic practitioners particularly when asked to offer an opinion on relevant clinical findings. This paper examines one case in detail and considers the elements of clinical examination; report writing; interpretation of injuries; comparing findings in alleged non-consensual and consensual intercourse; and finally the provision of appropriate medical opinions.

Keywords: Consent; Objectivity; Injuries; Independent opinion; Evidence base

1. Introduction

One of the most contentious areas of clinical forensic medicine and one which acutely challenges the forensic medical examiner (FME) relates to their involvement in cases where allegations of non-consensual intercourse are brought to the authorities. In relation to such a case, in March 2000 the author received a formal request from defence solicitors representing an accused person to study all relevant documents in relation to a charge of alleged rape and give comment on their contents. The specific request was to "consider the likelihood or possibility of our client's claim that he and the complainer had indulged in consensual intercourse". The instructing agents asked if there was any evidence, particularly in the medical reports or forensic biologist's report to support the complainer's allegation that intercourse was non-consensual. The following documents were made available prior to provision of the report:

Copy indictment; copy statement of complainer; copy statement of accused; copy statement of Dr. A. forensic medical examiner (FME) of the complainer; copy statement of Dr. B. (FME) of the accused; Copy statement of Ms C. forensic biologist; copy taped interview of accused; photographs of public toilets and of adult female.

1.1. Statement of complainer

The following extract is exactly as recorded in the complainer's formal statement:

"After waiting in the queue for my chips I was absolutely dying for the toilet. There was an old guy standing at the men's toilet door. I pushed the toilet door open and went inside. The toilets are so small you have to go

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in and then turn around to close the door, which I did – and then he was right in my face. He pushed me to the back of the cubicle. He had hold of my arms but I managed to scratch him. I got marks on my back from being pushed up against the side wall of the toilet. He pushed me against the wall with one of his arms and pulled my trousers down with the other hand. Then the outside toilet door opened and a voice shouted in. He pressed his hand over my mouth. Then he violently did it – rammed it in. He pushed his penis in to me and it hurt a lot and later let go of me, so I pulled up my trousers and took off out the cubicle door. There's this ledge in the toilets where my chips were sitting, so I grabbed them''.

1.2. Statement of accused

The following extract is exactly as recorded in the accused's formal statement:

''She went into the toilet and then shouted for me to come inside – so I squeezed into the cubicle. She was standing facing me and I kissed her and she kissed me. She was getting ''turned on'' and she pulled my hands on to her thighs pushing them up and down while she was pulling at her trousers to get them down a bit. I was fondling her private parts. I was using my fingers on her. I took my penis out and there was slight penetration but not much. There was no ejaculation. I then noticed I had blood on my fingers and asked her if it was her ''bad week''. We each pulled our clothes up and when she saw the blood on her trousers and boots she said ''What am I going to tell him?'' (her boyfriend). Then a woman came in and said ''I want to lock up''. We came out of the toilets and she began eating her chips''.

1.3. Forensic medical report of Dr. A

''The complainer gave her consent to the examination. The examination related to an incident which was alleged to have occurred some 6 h earlier. The complainer measured 5 ft 4 in. in height and weighed 11 stones. She was suffering from the following injuries:

1. A ''curvilinear scratch'' 7 cm in length on the left side of the abdomen.
2. Dried blood was noted on the thighs, both legs and ankles.
3. The external genitalia exhibited matted pubic hair and dried blood.
4. The fourchette showed a graze and superficial laceration, which was bleeding at 6 o'clock. All of the blood, which was noted above, appeared to come from injuries 1 and 3. Gentle labial traction revealed no bleeding and the blood already noted appeared to be coming from the graze/laceration on the posterior fourchette''.

The following forensic samples were taken – venous blood for DNA; head hair combed and cut; pubic hair combed and cut; matted pubic hair cut; fingernail scrapings left and right; external vulva swab; low vaginal swab; high vaginal swab; control swab.

1.4. Commentary of Dr. A

''The graze/laceration of the posterior fourchette would be consistent with forced intercourse''.

1.5. Statement of Dr. B

''I attended at the police station and was introduced to the accused who informed me he had not bathed or washed since the alleged incident which had occurred some 24 h previously. He informed me that he had previous sexual intercourse with a consenting partner 3 days previously. With his prior informed consent, I carried out examination and obtained specimens for forensic purposes. He was noted to be 6 ft 3 in. in height and weighed approximately 12.5 stones. There was no evidence of recent injury at any point on the body. His nails were bitten and very short. Appropriate forensic samples were obtained including – penile swabs $\times 2$ (shaft and coronal sulcus); scalp hair combed; scalp hair cut; pubic hair combed; pubic hair cut; venous blood''.

1.6. Statement of Miss C. Forensic biologist

''This statement concerns the investigations carried out regarding an alleged rape. Regarding the actual test results, no semen was found on either the internal or the external vaginal swabs. No blood was found on the penile swabs. Cellular material was however found on the penile swabs. Cellular material originates in the orifices of the body particularly the vagina and mouth. Nothing in the cellular material appears particularly vaginal, but it may well have been vaginal in origin. An examination of the jeans which the accused was wearing at the time of the alleged offence revealed two small bloodstains to the inside of the left fly and one small bloodstain on the inside left of the waist band. The pattern of the blood staining on the jeans suggested a contact bloodstain as opposed to an aerial bloodstain. If there had been violence at the stage when the blood landed on the accused's clothing, then I would have expected an aerial (spattered) pattern of blood staining. This does not of course rule out the possibility that the incident concerned here was a violent one, although if there had been a struggle I would have expected a greater diffusion of the bloodstains''.

2. Defence report

2.1. Advice on specific points of the case

1. The forensic medical report of Dr. A. in respect of the complainer is brief in the extreme and lacking in formal structure. It is regarded as best forensic

practice to examine the genitalia externally and thereafter to document the findings (including negative findings) noted in individual structures – vulva, labiae majorae, labiae minorae, posterior fourchette, clitoris, urethra, fossa navicularis, hymen, vagina and cervix.[1]

2. The forensic report of Dr. A mentions injuries 1 and 3 however 3 is not an injury and the report should read injuries 1 and 4.
3. The accused is 6 ft 3 in. tall and is reported after examination, to have no evidence of injuries, in particular any scratch marks. The complainer is 5 ft 4 in. tall, with no injury recorded to face, mouth, neck, or back resulting from either direct pressure or gripping injury.
4. The ''curvilinear scratch'' mark recorded on the abdomen of the complainer is a finding of note, however is of uncertain forensic significance in relation to the accused whose fingernails were noted to be ''bitten and very short''. The area involved is seen in the still photographic evidence to be midway between the umbilicus and the left lower costal margin and would be very unlikely to be related to the zip of the complainer's jeans. More importantly this lesion has not been clearly defined as either an abrasion or a linear superficial laceration, neither has it been described as a fresh or healing lesion which is crucial to establishing whether or not its appearance was consistent with the timescale of the alleged offence.
5. Examination of external genitalia of the complainer revealed ''a graze and superficial laceration which was bleeding at 6 o'clock position''. The laceration is clearly described as superficial, however the stated distribution and amount of blood staining appears to be somewhat more than might normally be expected from a superficial injury such as described.
6. Internal examination using a speculum has not been performed; hence it is not possible to ascertain the exact source or nature of the bleeding, with particular reference to possibility of menstrual blood flow. Since a speculum has not been used both vaginal samples have been taken under direct external vision.
7. Still photographic evidence is available which shows blood in a relatively narrow trail or ''trickle'' present on the medial (inner) aspects of both legs extending from the inner thighs to the lower calf on both legs above the ankles. There is neither however any video-colposcopic evidence or line body diagrams available which would assist in the interpretation of the genital findings.
8. Consensual sexual intercourse in a vertical or ''stand up'' position normally requires a degree of mutual co-operation from both parties since the initial penetration by the erect penis might be relatively difficult or awkward. This is the case when both parties are of a relatively similar stature. Should there be a significant height difference, in this case some 11 in., the procedure is likely to be more difficult and would almost certainly require co-operation between the two parties.
9. Consensual sexual intercourse in the vertical or ''stand-up'' position virtually always results in pressure from the penis on penetration, being exerted posteriorly towards the perineum in the female, resulting in pressure on the area of the posterior fourchette. This pressure may result in significant stretching of the posterior fourchette, which in turn might cause a split or laceration to the tissues resulting in some degree of local bleeding since lacerations, abrasions or bruises have been described following consensual sexual activity.[2,3]
10. Injuries to the fourchette have been reported in non-consensual intercourse. One particular study has reported that in the majority of cases these are accompanied by injuries elsewhere in the genital area and do not normally present as the solitary site of genital injury.[4]
11. The same study reported injuries to the posterior fourchette have been recorded following consensual intercourse and in the majority of these cases have been reported to be solitary site injuries.[4]

2.2. Opinion of author

(i) Studies relating to the presence of genital injuries in complainers of sexual assault have rarely been compared to the findings recorded in women examined after consensual intercourse. Those studies which have been reported relating to the presence of genital injuries in complainers of sexual assault and rape have produced variable results.

(ii) On the basis of current research it has not been found possible to identify clinical signs which might reliably distinguish non-consensual from consensual sexual intercourse.

(iii) A graze and superficial laceration of the posterior fourchette might be considered consistent with, but not diagnostic of non-consensual intercourse, since injury to the posterior fourchette has been recorded following consensual intercourse.

(iv) In respect of the particular question posed as to ''whether there is any evidence in the Crown productions which indicates that the event was not an incident of consensual sexual intercourse'' – I am aware of the statements of both the complainer and of the accused, however I am not aware of any clinical or forensic evidence which can distinguish between this being consensual or non-consensual intercourse.

3. Progress of case

The case was heard at the High Court in Edinburgh at which time the author gave evidence as per the report above. It was made clear by the Advocate Depute that Dr. A. had examined the complainer and I had not; and for that reason Dr. A.'s opinion which was that the degree of blood loss was such that it could not have resulted from consensual intercourse; that it was the result of injury to the fourchette; and was the result of forced penetration due to non-consensual intercourse; should be agreed. I acknowledged that I had not examined the complainer but that I had examined the forensic medical report of Dr. A. which recorded "a graze and superficial laceration which was bleeding at 6 o'clock", and also the photographs of the complainer's legs which showed evidence of slight blood staining. I stated that in my opinion the source of the bleeding might have been from the posterior fourchette only, however other sources including menstrual bleeding could not be excluded since a speculum examination had not been performed. I further stated I thought this important since Dr. A. had described the laceration at the posterior fourchette as "superficial" and because of this it would not be unreasonable to expect any bleeding from such a laceration to be relatively slight.

It was put to me that Dr. A. had been in no doubt that intercourse was non-consensual and I was asked why I did not agree. I replied I would be more likely to subscribe to the opinion of Dr. A. if the doctor could provide an evidence base for the opinion. I added that while recently published papers showed variable results in respect of injuries recorded in complainers of sexual assault and rape, it was considered by some that a localised pattern of genital trauma could frequently be seen in women reporting non-consensual intercourse; however further investigation was needed to determine whether there was a finding or a group of findings that could distinguish non-consensual from consensual intercourse.

It was put to me that Dr. A. had stated that since lubrication was a normal physiological response in consensual intercourse, a graze and laceration of the posterior fourchette indicated that intercourse had occurred as a result of "forced penetration". I again replied that I would be more likely to subscribe to the opinion of Dr. A. if an evidence base could be provided for such an opinion. I made it clear to the court I did not consider it the responsibility of the medical examiner to make any diagnosis or pronouncement on whether or not a sexual assault or act of rape had occurred since I considered that to be the responsibility of the jury after due consideration of all relevant evidence.

4. Verdict

The jury considered all the evidence and found the accused "Not Proven Guilty" on the charge of rape. This is considered to be a clear indication that the jury had a degree of doubt since they neither convicted nor acquitted the accused with either a "Guilty" or "Not Guilty" verdict.

5. Discussion

There must be little if any dispute that the forensic medical examiner (FME) involved in cases of alleged rape should endeavour to provide a professional service to the complainer by way of an empathic, thorough and detailed medical examination; to ensure competent collection of all relevant forensic samples; to provide a professional, thorough and structured forensic report detailing relevant clinical findings – including negative findings as appropriate, which will assist in the investigation of the incident; and if requested to attend court and provide oral evidence which might assist the court in understanding the significance of the medical findings. In respect of the genital examination, a structured and detailed examination of individual structures is required in all cases and adherence to the recommended approach of noting the clinical findings in the vulva, labiae majorae, labiae minorae, posterior fourchette, clitoris, urethra, fossa navicularis, hymen, vagina and cervix would be considered best practice. The forensic physician would be wise to remember that our function is to provide an independent opinion and offer if possible, an explanation of how injuries, whether present or not, might be relevant to the particular case. This however is not always an easy task since studies relating to the presence of genital injuries in complainers of sexual assault and rape have produced variable results.[4–10] It might thus be considered wise to remind the court that it is accepted in enlightened medical circles that further research must be carried out in an attempt to identify clinical findings which would be accurate and reliable indicators that intercourse was non-consensual as opposed to consensual. Indeed it would also be prudent to be aware that it is usually not possible for the forensic physician to be specific that sexual intercourse has actually taken place.[11]

5.1. Genital injury and sexual intercourse

The incidence of genital injury in cases of alleged sexual assault and rape has been the subject of some debate and indeed not a little dispute. A report which attempted to clarify the issue detailed the colposcopic findings in a study of 311 complainers of sexual assault and compared the findings with genital findings seen in 75 healthy women 24 h after consensual intercourse.[4] Injuries were categorised into five different types of "trauma" as follows: tears, bruises, abrasions, redness and swelling. The most common site of injury reported was the posterior fourchette. Comparison of genital injury noted in both groups examined within 24 h of intercourse revealed 89% of women who had complained of sexual assault had evidence of trauma or injury, whereas 11% of women who had consensual sex-

ual intercourse had clinical evidence of trauma. The study authors concluded "This study and others confirm the greater vulnerability of the posterior fourchette in sexual assault. Although coital injury seems to be associated with insertion of the penis, its prevalence is significantly associated with a history of non-consensual intercourse. Further investigation is needed to determine whether there is a finding or group of findings that can distinguish non-consensual and consensual activity".

Although this study appears to have identified significant differences in the detection rate of genital injuries in the two groups it must be noted that colposcopy was used to detect injuries and since in the UK this tool is not yet routinely used in cases of alleged adult sexual assault it is difficult to compare the clinical evidence on a "like for like" basis. However an inherent problem with this study is that the authors had decided – "A complaint was considered valid if police investigation corroborated the victim's history and the victim did not recant". The possibility that some complainers who had in fact had consensual intercourse were included in the incorrect group must be considered and this in turn questions the validity of the results. Indeed the authors reported that in the control group of 75 women who had volunteered to be examined following consensual intercourse – "48 were women who had been evaluated initially as victims but who later admitted to consensual intercourse confirmed by police investigation", and this only highlights the fragility of their selection criteria.

An early study in the UK by Manser[5] reported genital injury in 37% (38/103) of complainants and concluded – "Injury is a feature of sexual assault in perhaps three-quarters of adult cases, but the damage inflicted to the genitalia or extra-genital sites is commonly minor". Bowyer and Dalton[6] conducted a retrospective review of case records of 83 women who reported rape in the UK and they reported genital injury in a minority of women alleging sexual assault 26% (22/83) however the majority of women 82% (68/83) had some physical injury although regarded as minor. The authors concluded that only a minority of women examined by specifically trained police doctors showed evidence of genital injury following allegation of sexual assault. However it is not clear from the study exactly which parameters were used.

A more recent study by Sommers[7] reported the incidence of genital injury resulting from sexual assault in a case study of 576 ranged from 32% on direct visualisation, to 87% with use of colposcopy technique. The commonest site of injury recorded was the cervix, followed by the labia minora, the posterior fourchette and the vagina. The authors also examined a small group of 10 volunteers who agreed to be examined following consensual intercourse and 1 woman or 10% was recorded to have a single genital injury and that location was the posterior fourchette. The authors concluded "Further work is needed to determine if the colposcopy examination can be used to predict consensual versus non-consensual sex".

Riggs[8] examined 1076 cases of alleged sexual assault and reported that general body trauma was found in 67% of cases and genital trauma occurred in 53%; whereas Grossin[9] studied 418 "victims" of sexual assault and defined two distinct groups – those examined within 72 h of alleged incident and those later than 72 h. Genital trauma was recorded in 35.7% of the first group and in 19.5% of the second group.

Palmer and colleagues[10] reviewed medical records of 153 consecutive subjects who were examined within 72 h of an alleged sexual assault and reported non-genital injury in 46%; genital injury in 22%; and genital injury in the absence of general injury rare at 3%. These authors concluded that "the presence of genital injuries should not be required to validate an allegation of sexual assault, particularly in the absence of non-genital injuries".

6. Conclusion

In view of the apparent lack of consensus regarding the prevalence of genital injury in cases of alleged sexual assault and rape, a crucial point to be remembered is that it is not the function of the forensic medical examiner to state whether or not the findings are diagnostic of, or even consistent with rape, but only to accurately and thoroughly record all relevant clinical findings, including negative findings, and if requested to offer an explanation as to their potential significance. In doing so the doctor will be recognised as an unbiased, impartial witness who has fulfilled the responsibility of assisting the court in understanding the relevance of the medical findings, which of course form only a part of the evidence to be considered by the court.

Although it may be appropriate for the doctor to form the opinion that the clinical findings support or are consistent with the allegation[12] the FME should never state the medical findings are consistent with rape[11] since it must be acknowledged that rape is not a medical diagnosis but a legal concept and a determination to be made by the court.[13] Finally we must be aware that as independent witnesses whether called by the Crown or the Defence we need only provide our best impartial evidence, since it is not our responsibility to "win the case" for either the Crown or the Defence; rather it is our responsibility to clarify to the best of our ability and within the confines of a valid evidence base, the significance and relevance of the medical findings such that we might assist the court in the due process and application of the law.

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